

# Helicopter Stakeholder Meeting

# **Packet Contents**

Agenda

Ordinance, Title 13-1

Heli-facility Category Comparison Table

Helicopter Analysis – 2013 F1 Weekend

**Stakeholder Meeting Participants** 

### HELICOPTER STAKEHOLDER MEETING WEDNESDAY, JANUARY 26, 2014 AT 6:00 PM LEARNING RESEARCH CENTER 2800 SPIRIT OF TEXAS DRIVE AUSTIN, TEXAS 78719

#### **FACILITATOR:**

CITY OF AUSTIN – DEPARTMENT OF AVIATION

#### **AGENDA**

#### CALL TO ORDER

- 1. INTRODUCTION
- 2. HELICOPTER WEEKEND REVIEW
- 3. GROUP DISCUSSION ON POSSIBLE REVISIONS FOR TITLE 13-1
  PERTAINING TO HELI-FACILITIES
- 4. NEXT STEPS

#### **ADJOURN**

The City of Austin is committed to compliance with the Americans with Disabilities Act. Reasonable modifications and equal access to communications will be provided upon request. Meeting locations are planned with wheelchair access. If requiring Sign Language Interpreters or alternative formats, please give notice at least 4 days before the meeting date. Please call Becky Nagel at (512) 530-6614 for additional information.

For more information on the Helicopter Stakeholder Meeting, please contact Stephen Dick at 512-530-5541.

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# TITLE 13-1, ARTICLE 4. HELIPORTS AND HELICOPTER OPERATIONS

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#### ARTICLE 4. HELIPORTS AND HELICOPTER OPERATIONS.

## § 13-1-171 DEFINITIONS.

- (A) Terms not otherwise defined in this article have the meaning prescribed by applicable aviation law, including Federal Aviation Administration Advisory Circular 150/5390-2 (Heliport Design Guide), Federal Aviation Administration Advisory Circular 150/5020-1 (Noise Control and Compatibility Planning for Airports), and Appendix A of 14 Code of Federal Regulation Part 150.
- (B) In this article:
- (1) APPROACH AND DEPARTURE PATHS means the flight tracks helicopters follow when landing at or departing from a heli-facility.
- (2) APPLICATION means an application for issuance of a heli-facility permit pursuant to this article.
- (3) CATEGORY I means a helistop approved for a cumulative total of 10 or fewer helicopter takeoffs and landings per day and 18 total operations during the period of the heli-facility permit.
- (4) CATEGORY II means a helistop approved for a single specific event of not more than three consecutive days during the period of the heli-facility permit, with a cumulative total of helicopter takeoffs and landings not to exceed eight operations per hour per day. In addition, no more than three approved helicopters may use an approved category II helistop without special consent of the director.
- (5) CATEGORY III means a permanent heliport facility.
- (6) COMMISSION means the City of Austin Airport Advisory Commission.
- (7) DAY-NIGHT AVERAGE SOUND LEVEL (L<sub>dn</sub>) means the 24-hour average sound level, in dB, for the period from midnight to midnight, obtained after the addition of 10 dB to sound levels for the periods between midnight and 7 a.m., and between 10 p.m. and midnight, local time.
- (8) dB means decibels, a logarithmic scale for measuring sound intensity.
- (9) DIRECTOR means the Director of the Aviation Department.
- (10) ENVIRONMENTALLY SENSITIVE AREA means, as defined by the U.S. Environmental Protection Agency, an area that includes important natural resources such as sensitive topographic features (i.e. steep slopes (>15%)), geologic/geomorphic formations, sinkholes and karst terrain, scenic vistas/overlooks/lookouts and public and private forest and woodlands.
- (11) EQUIVALENT SOUND LEVEL (L<sub>eq</sub>) means the average noise level during a designated period (less than 24 hours).
- (12) FAA means the United States Federal Aviation Administration.
- (13) HELICOPTER means a rotocraft that depends principally on its engine-driven rotors for its horizontal motion.
- (14) HELI-FACILITY means a heliport or a helistop.
- (15) HELI-FACILITY PERMIT means written authorization obtained pursuant to this article for the operation of a heli-facility in the city.
- (16) HELIPORT means the area of land, water, or a structure used or intended to be used permanently for the landing and takeoff of helicopters, together with appurtenant buildings and facilities.

- (17) HELISTOP means a minimally developed heli-facility that is temporarily designated as a landing area for one or more helicopters to be used for the boarding and discharge of passengers or cargo, or for a specific educational, commercial, or community purpose, or for a construction project, and which is not equipped with
- (18) HOSPITAL HELIPORT means a heliport that only serves helicopters engaged in air ambulance service or other hospital related functions.
- (19) INCOMPATIBLE NOISE means anticipated noise measurement from the operations proposed in an application that, based on noise modeling, noise monitoring of heli-facilities in the past, or the department's noise monitoring of test flights in the vicinity of the proposed location for the heli- facility, would be expected to exceed with unreasonable frequency and/or duration the levels indicated below for specific types of noise sensitive areas:
- (a) noise measurement of 65-70 dB or greater for residential, mobile home parks, transient lodgings, schools, hospitals, nursing homes, places of worship, concert halls, outdoor music shells, amphitheaters, or substantially similar land uses; or
- (b) noise measurement of 70-75 dB or greater for governmental services, offices (business and professional), auditoriums, nature exhibits, zoos, or substantially similar land uses; or
- (c) noise measurement of 75-80 dB or greater for livestock farming or breeding, general retail, photo-graphic or optical manufacturing or production, amusement parks, golf courses, parks, riding stables, resorts, water recreation areas camps, or substantially similar land uses; or
- (d) noise measurement of greater than 85 dB for parking, wholesale or retail sales of building materials, hardware or farm equipment, utilities, general manufacturing, or substantially similar land uses;
- (e) provided, however, that the noise measurement reasonably anticipated from the proposed heli-facility's operations shall not be deemed incompatible noise with respect to any particular noise sensitive area if the noise measurement from self- generated noise from that noise sensitive area and/or the ambient noise at that noise sensitive area exceeds the noise measurement reasonably anticipated from the proposed heli-facility's operations.
- (20) NOISE means any sound that is deemed undesirable by an individual.
- (21) NOISE MEASUREMENT means generally the applicable technical standard to be used for incompatible noise, noise modeling, or noise monitoring of a particular type of heli-facility, and means specifically:
- (a) for a category I or category II, the A-weighted equivalent sound level (L<sub>eq</sub>), measured in accordance with FAA Integrated Noise Model guidelines; and
- (b) for a category III, the yearly day- night average sound level ( $L_{dn}$ ), measured in accordance with FAA Integrated Noise Model guidelines.
- (22) NOISE MODEL means a computer model, developed by the FAA (or an FAA approved equivalent), suitable for evaluation of anticipated helicopter noise impacts in the vicinity of a heli-facility. Noise modeling can output either noise contours for an area or noise level at preselected locations. The noise output can be either exposure-based, maximum-level-based, or time-based.
- (23) NOISE MONITORING means the analysis, with computerized aircraft noise and flight track data collections and processing systems, of the noise impact of heli-facility operations on noise sensitive areas, using data acquired from helicopter transponders, noise from permanent and portable noise monitors, weather observations, citizen complaints, radar, and other sources. (24) NOISE SENSITIVE AREA means land uses identified by FAA Advisory Circular 150/5020-1 (Noise Control and Compatibility Planning for Airports) and Appendix A of 14

Code of Federal Regulation Part 150 as noise sensitive areas, including land used for any of the following or substantially similar purposes: residential, mobile home parks, transient lodgings, schools, hospitals, nursing homes, places of worship, auditoriums, concert halls, government services facilities, offices (business or professional), retail businesses, communication facility, livestock farms, ranches, or breeding facilities, outdoor sports arena, spectator sports facilities, outdoor music shells, amphitheaters, nature exhibits, zoos, amusement parks, parks, resorts, camps, riding stables or water recreation areas.

- (25) ONLINE means a centralized link on the department's internet web site from which the public can easily access all information regarding heli- facilities required by this article to be posted or published.
- (26) OPERATION means either one helicopter landing or one helicopter takeoff at a helifacility.
- (27) OPERATIONAL HOURS means the hours of the day that category II operations may occur between 7:30 A.M. (local) and 8:30 P.M. (local).
- (28) OWNER means a person having a legal or equitable interest in a helicopter, a heli-facility, or a helicopter venture.
- (29) PRIVATE USE HELIPORT means a heliport that is developed for the exclusive use of its owner and persons authorized by the owner.
- (30) PUBLIC USE HELIPORT means a heliport available for use by the general public without the prior approval of the owner or operator.
- (31) REASONABLE FREQUENCY means eight operations per hour per day for a category II heli-facility.
- (32) SPECIAL CONSENT means consent by the director to authorize certain operations as set forth in Section 13-1-181(H).

Source: 2003 Code Section 13-1-291; 1992 Code Section 17-2-291; Ord. 040729-16; Ord. 20121108-051; Ord. 20130620-089.

## 

(A) This article applies to any heli-facility located outside of an aviation services (AV) district. (B) This article does not apply to property owned by a federal and state government or agency. Source: 2003 Code Sections 13-1-290(B) and (E); 1992 Code Sections 17-2-290(B) and (E); Ord. 040729-16; Ord. 20130620-089.

# **尽** § 13-1-173 APPLICATION DEADLINES, CONDITIONS, AUTHORITY, APPEALS, AND CALCULATION OF DEADLINES.

- (A) An administratively complete application must be filed with the department:
- (1) 30 days in advance of the requested effective date for a category I;
- (2) Six months before the requested effective date for a category II.
- (B) The following are not considered part of the application but rather are conditions to the issuance of a heli-facility permit after approval of an application ("conditions"):
- (1) For a category I and a category II, submission to the director by the applicant of a signed inspection from the Austin Fire Department for compliance with International Fire Code and National Fire Protection Association standards;
- (2) For a category II and a category III, submission to the director by the applicant of a FAA letter of no objection to the planned approach and departure paths for the proposed heli-facility;

- (3) For a category III, receipt by the applicant of a conditional use permit as required by Section <u>25-2-861</u> (Facilities for Helicopters and Other Nonfixed Wing Aircraft) of the code;
- (4) For a category III, submission to the director by the applicant of a FAA letter of airspace determination; and
- (5) For a category I and a category II, the transponder code as assigned by FAA at time of flight for each helicopter using the heli-facility.
- (C) In order to expedite the application process, the director shall not wait for any condition to be satisfied to determine that the application is administratively complete and to commence review of, or to issue a decision either approving or denying, an application.
- (D) The director may issue a heli-facility permit upon his determination that:
- (1) The application has been approved:
- (a) and no timely notice of appeal has been filed for category II or category III; or
- (b) the city manager, or city council, as applicable, has rendered a decision overruling an appeal of the director's determination; and
- (2) All conditions have been met.
- (E) The director may adopt rules, consistent with applicable law and this article, relating to the operation of a heli-facility.
- (F) For purposes of Section 2-5-62 of the code:
- (1) An applicant shall have standing to appeal the director's determination of an application, or to respond to an appeal of the director's determination, of an application.
- (2) Any resident, tenant, owner, user, or operator of a noise sensitive area or environmentally sensitive area has standing to appeal the director's determination of a category II or category III application if the appellant alleges the proposed operations would:
- (a) expose the noise sensitive area to incompatible noise; or
- (b) pose a material threat to life, health, or property at the noise sensitive area; or
- (c) pose a material threat to the environmentally sensitive area.
- (G) A person with standing may appeal the director's decision by filing with the director, no later than fourteen (14) days after the date of the director's decision, a "notice of appeal", which shall include:
- (1) the name, address, and telephone number of the appellant;
- (2) the name of the applicant, if the appellant is not the applicant;
- (3) the decision being appealed;
- (4) the date of the decision;
- (5) a statement of the basis of the appellant's standing; and
- (6) the reasons the appellant believes the director's decision on the application does not comply with the requirements of this article.
- (H) A person with standing may respond to an appeal by filing with the director, no later than fourteen (14) days after the date on which the notice of appeal was filed, a "response to appeal", which shall include:
- (1) the name, address, and telephone number of the respondent;
- (2) identification of the appeal to which the response to appeal relates;
- (3) a statement of the basis of the respondent's standing; and
- (4) the reasons the respondent believes the director's decision on the application complies with the requirements of this article.

- (I) Within three business days of receipt of a notice of appeal or a response to an appeal relating to a category II application, the director shall deliver the notice of appeal or a response to an appeal to the city manager who shall decide the appeal.
- (1) The city manager shall have 45 days from the date of the director's decision to decide an appeal relating to a category II application.
- (2) The city manager's decision shall be in the form of a written opinion stating the findings of fact, provisions of applicable law, and provisions of this article on which the city manager's ruling on the appeal is based.
- (J) The department shall post online every notice of appeal and response to a category II appeal within three business days filing, every decision on an appeal within one day of issuance, and every heli-facility permit within one day of issuance, and shall keep them posted online until such time as they are no longer relevant;
- (K) For purposes of determining the deadline for taking action within a period of a specified number of days as required by this article:
- (1) the day of the event that triggers the deadline shall not be counted;
- (2) any day falling on a weekend or city holiday shall be counted unless the weekend or city holiday is the last day of the period; and
- (3) [reserved]
- (4) the deadline shall be 5 P.M. (Central Time) on the last day of the period as determined in the manner in this section.

Source: Ord. 040729-16; Ord. 20130620-089.

## § 13-1-174 FEES.

The council may by separate ordinance establish fees for permits issued by the director under this article.

Source: 2003 Code Section 13-1-293(A)(2)(b); 1992 Code Section 17-2-293(A)(2)(b); Ord. 040729-16.

## **₽** § 13-1-175 CATEGORY III IDENTIFICATION NUMBER.

- (A) The permittee is required to obtain a heliport location identifier from the FAA.
- (B) The department shall maintain information identifying each heliport in the city by type, location, identification number, and name of the owner or operator.
- (C) The owner or operator of a heliport shall display the markings as required by FAA 150/5390-2 and Section 13-1-186 (Heli-facility Standards and Marking).

Source: 2003 Code Section 13-1-292(K)(1); 1992 Code Section 17-2-292(K)(1); Ord. 040729-16; Ord. 20130620-089.

## **№ § 13-1-176 ZONING RESTRICTIONS.**

- (A) Except as provided in Subsection (B), the director may not issue a heli-facility permit for a proposed heli-facility in a residential base district as described in Division 2 (Residential Base Districts), Article 2 (Zoning Districts) of Chapter 25-2 (Zoning).
- (B) Notwithstanding that the heli-facility would be in a zone district listed in subsection (A), the director may, if all other requirements of this article are satisfied, issue a heli-facility permit for a proposed:
- (1) hospital heliport; or
- (2) category I on a construction site.

Source: 2003 Code Section 13-1-292(D); 1992 Code Section 17-2-292(D); Ord. 040729-16; Ord. 20130620-089.

## **₽** § 13-1-177 HELI-FACILITY SITE PRIORITIZATION.

The director shall apply the following priority ranking in approval of a heli-facility site:

- (1) a hospital category III and other category III intended for emergency use by a fire department or law enforcement agency;
- (2) a public use category III; and
- (3) a private use category III; and
- (4) a category I and a category II.

Source: 2003 Code Section 13-1-292(J); 1992 Code, § 17-2-292(J); Ord. 040729-16; Ord. 20130620-089.

## **№ § 13-1-178 HELI-FACILITY PERMIT REQUIRED; OFFENSE.**

- (A) To establish or operate a category I or category II in the city, a person must obtain a helifacility permit from the director.
- (B) To establish or operate a category III in the city, a person must obtain:
- (1) a heli-facility permit from the director; and
- (2) a conditional use permit as required by Section <u>25-2-861</u> (Facilities for Helicopters and Other Nonfixed Wing Aircraft) of the Code.
- (C) A heli-facility permit issued under this article is non-transferable.
- (D) For purposes of Sections <u>1-1-99</u> and <u>13-1-201</u>, each separate non-emergency landing knowingly allowed by the owner or operator of a heli-facility without a valid heli-facility permit is a separate offense of this section by the owner and operator.

Source: 2003 Code Sections 13-1-290(D) and 13-1-292(G)(2); 1992 Code Sections 17-2-290(D) and 17-2-292(G); Ord. 040729-16; Ord. 20130620-089.

# ↓ § 13-1-179 EMERGENCY EXCEPTION TO PERMIT REQUIREMENT.

- (A) At the scene of an accident, disaster, or emergency, authorized on-scene City personnel may authorize a helicopter to operate at an adjacent un- permitted location for medical, fire, or police purposes.
- (B) A heli-facility permit is not required for an unprepared site at or near the scene of an accident or similar medical emergency on which a helicopter may land to pick up a patient to provide emergency medical transport.
- (C) A heli-facility permit is not required to land a helicopter engaged in firefighting or an emergency evacuation operation on a clear area on the roof of a tall building not designed as a heliport.

Source: 2003 Code Section 13-1-292(P) and (Q); 1992 Code, § 17-2-292(P) and (Q); Ord. 040729-16; Ord. 20130620-089.

# ig| $\S$ 13-1-180 APPLICATION REQUIREMENTS FOR CATEGORY I.

- (A) This section does not apply to a category II or category III.
- (B) An application for a category I shall include:
- (1) proof of insurance as required by Section <u>13-1-185</u> (*Insurance Required*; *Termination*);
- (2) a description of the location (latitude and longitude) and intended use of the proposed helistop;

- (3) a description of the size, layout, and topographical features of the proposed helistop;
- (4) the number of anticipated daily operations and hours of operation;
- (5) for each helicopter expected to use the proposed helistop, the helicopter's tail number, manufacturer, model number, and maximum gross weight;
- (6) a description of one or two approach and departure paths selected in compliance with FAA Advisory Circular 150/5390-2 (*Heliport Design Guide*) which should, insofar as safely practicable, avoid noise sensitive areas and environmentally sensitive areas;
- (7) a description of each obstruction penetrating the proposed helistop's imaginary surfaces as identified in 14 Code of Federal Regulation Part 77 (Safe, Efficient Use, and Preservation of Navigable Airspace);
- (8) documentation of crowd control measures adequate for the circumstances of the helistop's intended use;
- (9) for a proposed elevated or rooftop helistop, certification by a registered professional engineer that the supporting structure for the touchdown and liftoff area satisfies the minimum design load recommended by FAA Advisory Circular 150/5390-2;
- (10) application fee; and
- (11) any additional information required by the director.
- (C) The director shall notify the following city departments and non-city agencies:
- (1) Department;
- (2) Police;
- (3) Fire;
- (4) Transportation;
- (5) Parks and Recreation;
- (6) Planning and Development Review Department;
- (7) Code and Compliance;
- (8) Star Flight; and
- (9) Austin-Travis County EMS.
- (D) Notice and public comment period shall be provided as follows:
- (1) The department shall:
- (a) within three business days of the receipt of an administratively complete application post a copy of the application online for public inspection;
- (b) within three business days of any change in the administratively complete application (e.g. supplementation or amendment by the applicant, or city's "check-off" on a requirement or condition), update the copy of the application posted online; and
- (c) within three business days of the receipt of an administratively complete application, give notice to the public by providing notice to the Austin Neighborhood Council and neighborhood associations within 500 feet in the vicinity to communicate such notice to their members and residents.
- (E) the director shall, within three business days of making a decision, issue, deliver to the applicant, and post online the decision on the application in the form of a written opinion explaining the basis of the director's decision (including findings of fact and applicable provisions of law and of this article).

Source: 2003 Code Sections 13-1-292(K) and (M) and 13-1-293(B); 1992 Code Section 17-2-292(K) and (M) and 17-2-293(B); Ord. 040729-16; Ord. 20130620-089.

# $\blacksquare$ § 13-1-181 APPLICATION REQUIREMENTS FOR CATEGORY II.

- (A) This section does not apply to an application for category I or category III.
- (B) An application for a category II shall include:
- (1) proof of insurance required under Section 13-1-185 (Insurance Required; Termination);
- (2) a description of the location (latitude and longitude), type, and intended specific use of the proposed helistop;
- (3) a description of the size, layout, and topographical features of the location of the proposed helistop;
- (4) a description of each obstruction penetrating the helistop's imaginary surfaces as identified in 14 Code of Federal Regulation Part 77 (Safe, Efficient Use, and Preservation of Navigable Airspace);
- (5) the specific dates during the requested heli-facility permit period for which authorization for operations is sought and, for each such date, the maximum hours of operation, and the maximum number of operations on an hourly and daily basis;
- (6) for each helicopter expected to use the proposed helistop, the helicopter's tail number, manufacturer, model number, and maximum gross weight;
- (7) an aerial image or current map of the proposed helistop and its environs, scaled at least one inch to every 400 feet, marked to indicate:
- (a) the helistop boundaries;
- (b) takeoff and landing pads;
- (c) one or two approach and departure paths selected in compliance with FAA Advisory Circular 150/5392-2 (*Heliport Design Guide*) out to at least 4,000 feet horizontally from the landing area, which insofar as safely practicable should avoid noise sensitive areas and environmentally sensitive areas, and one of which (if there are two) shall be identified as the principal approach and departure path based on the prevailing wind direction for the dates of anticipated operations;
- (8) the location of all noise sensitive areas and environmentally sensitive areas within a radius of at least 4,000 feet horizontally from the proposed helistop landing area; and
- (9) documentation of crowd control measures adequate for the circumstances of the helistop's intended use;
- (10) for a proposed elevated or rooftop helistop, certification by a registered professional engineer that the supporting structure for the touchdown and liftoff area satisfies the minimum design load recommended by FAA Advisory Circular 150/5390-2; and
- (11) application fee; and
- (12) any additional information required by the director.
- (C) The director shall notify the following city departments and non-city agencies:
- (1) Department;
- (2) Police;
- (3) Fire;
- (4) Transportation;
- (5) Parks and Recreation;
- (6) Planning and Development Review Department;
- (7) Code and Compliance;
- (8) Star Flight; and
- (9) Austin-Travis County EMS.
- (D) Notice and public comment period shall be provided as follows:
- (1) The department shall:

- (a) within three business days of the receipt of an administratively complete application post a copy of the application online for public inspection;
- (b) within three business days of any change in an administratively complete application (e.g. supplementation or amendment by the applicant, or city's "check-off" on a requirement or condition), update the copy of the application posted online; and
- (c) coordinate with the Planning and Development Review Department to provide public notice of the application, instructions for viewing the application online, comment period, and timetable for each stage of the application process to all persons who have standing to appeal the director's decision, in the following manner:
- (i) within three business days of the receipt of an administratively complete application, post such notice online and request all neighborhood associations within 500 feet of the proposed helistop to communicate such notice to their members and residents;
- (ii) within 10 days of the receipt of an administratively complete application, individual notice shall be delivered by mail to property owners and utility customers within 500 feet of the proposed helistop and to property owners and utility customers within the proposed helistop's 65 L<sub>eq</sub> dB noise contour as modeled by the FAA noise model.
- (2) The public comment period shall commence on the date the required notice has been provided and end 30 days after a filed application is administratively complete in all respects.
- (3) The department shall compile and submit for the director's review all comments received during the public comment period.
- (E) Within 30 days from the date the public comment period ends, the director shall issue, deliver to the applicant, and post online the decision on the application in the form of a written opinion explaining the basis of the director's decision (including findings of fact and applicable provisions of law and of this article).
- (F) Operations may be conducted only on the specific dates, and subject to the maximum number of operations and number of approved helicopters, for which a heli-facility permit is issued.
- (G) The director, on a day-by-day basis, after taking into consideration the time of day, operational hours, proximity to noise sensitive areas, and/or environmentally sensitive areas, noise sensitivity, complaints, compatibility with surrounding land use, and risks to life, health or property, shall have discretion to authorize increased or decreased frequency of operations and/or number of approved helicopters during portions of the approved operational hours for a category II, provided however, that the director:
- (1) shall not have discretion to increase the number of daily or total operations and/or number of approved helicopters beyond the maximum number allowed under a category II permit; and
- (2) shall cause the department to promptly give notice to neighborhood associations in the vicinity of the heli-facility of any such exercise of the director's discretion.

Source: Ord. 040729-16; Ord. 20121108-051; Ord. 20130620-089.

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- (A) This section does not apply to an application for category I or category II.
- (B) An application for category III shall include:
- (1) proof of insurance as required by Section 13-1-185 (Insurance Required; Termination);
- (2) a description of the location, type, and intended use of the proposed heliport;
- (3) a description of the size, layout, and topographical features of the location of the proposed heliport;
- (4) a description of each obstruction penetrating the heliport's imaginary surfaces as identified in 14 Code of Federal Regulation Part 77 (Safe, Efficient Use, and Preservation of Navigable Airspace);
- (5) the anticipated hours of operation and average number of daily operations;
- (6) a description of the types of helicopters expected to use the proposed heliport, including the manufacturer, model number, and maximum gross weight;
- (7) a site plan for the proposed heliport, including:
- (a) the location, type, and height of security fences, berms, and other noise mitigation and security features;
- (b) the location and type of firefighting equipment at the site;
- (c) the location and type of fuel storage facilities at the site;
- (d) the method of surface penetration or stabilization for the touchdown pad(s), including material; and
- (e) the locations and types of:
- (i) perimeter lighting, if required;
- (ii) site marking; and
- (iii) wind direction indication equipment;
- (8) completed copies, including attachments, of each of the following FAA forms:
- (a) 7480-1 (Notice of Landing Area Proposal) as prescribed by 14 Code of Federal Regulation Part 157 (Notice of Construction, Alteration, Activation, and Deactivation of Airports); and
- (b) 7460-1 (Notice of Proposed Construction or Alteration) as prescribed by 14 Code of Federal Regulation Part 77 (Safe, Efficient Use, and Preservation of Navigable Airspace);
- (9) an aerial image or current map of the proposed heliport and its environs, scaled at least one inch to every 400 feet, marked to indicate:
- (a) the heliport boundaries;
- (b) takeoff and landing pads;
- (c) at least two approach and departure paths selected in compliance with FAA Advisory Circular 150/5390-2 (*Heliport Design Guide*) out to at least 4,000 feet horizontally from the landing area, one of which shall be identified as the principal approach and departure path based on the prevailing wind direction for the dates of anticipated operations and both of which insofar as safely practicable should avoid noise sensitive areas and environmentally sensitive areas;
- (d) the location of all noise sensitive areas and environmentally sensitive areas within a radius of at least 4,000 feet horizontally from the proposed heliport landing area; and
- (e) noise contours of L<sub>dn</sub> 65, 70, 75, and 80 for the proposed heliport based on noise modeling;
- (10) such additional information required by Appendix A of 14 Code of Federal Regulation Part 150 Section 103 [A150.103], in a form suitable for input to a noise model;
- (11) a certificate of structural compliance, attested to by a registered professional engineer;
- (12) a depiction of the owner's proposed logo, emblem, or identification marking;
- (13) documentation of adequate available motor vehicle parking; and

- (14) any additional information required by the director.
- (C) Notice and public comment period for a category III shall follow the conditional use permit process under Title 25 of the Code.

Source: 2003 Code Section 13-1-292(N) and (T); 1992 Code Section 17-2-292(N) and (T); Ord. 040729-16; Ord. 20130620-089.

### ■ 8 13-1-183 DENIAL OF APPLICATION FOR HELI-FACILITY PERMIT.

- (A) The director may deny or condition an application if:
- (1) the applicant has failed to timely submit an administratively complete application; or
- (2) the proposed heli-facility:
- (a) would pose a material threat to life, health, or property; or
- (b) would not comply with applicable law; or
- (c) would expose any noise sensitive area to incompatible noise; or
- (d) would pose a material threat to an environmentally sensitive area; or
- (e) would not comply with any other requirement of this article.
- (B) The director may deny or condition the approval of an application if:
- (1) prior operations associated with the applicant, helicopters, or helicopter operators associated with the application have a history of:
- (a) violating Section 13-1-14; or
- (b) violating Section 13-1-15; or
- (c) material violations of this article;
- (2) the applicant has, in the current or a prior application, provided false material information either intentionally or negligently.

Source: 2003 Code Sections 13-1-292(G) and (S); 1992 Code Sections 17-2-292(G) and (S); Ord. 040729-16; Ord. 20130620-089.

## **₽** § 13-1-184 HELI-FACILITY PERMIT TERM AND RENEWAL.

- (A) A category III heli-facility is valid for five years from the date of issuance.
- (B) A permittee shall file an application to renew a category III heli-facility permit at least 60 days before the expiration of the existing permit.
- (C) A permittee must file a renewal application with the department including:
- (1) the application fee; and
- (2) a certificate that there has been no material change in the information provided in the original application; or
- (3) if a material change has occurred, a description of each change.
- (D) In this section, "material change" includes a change in:
- (1) the number of operations or hours of operation;
- (2) the type of helicopters using the heliport;
- (3) the approach and departure paths to the heliport that may constitute a helicopter operation constraint or safety hazard; or
- (4) development near the heliport that may affect air or ground access or constitute a hazard under 14 Code of Federal Regulation Part 77 (Safe, Efficient Use, and Preservation of Navigable Airspace).
- (E) A heli-facility permit for a category I or category II is valid for the shorter of:
- (1) the duration of the event or construction project for which the heli-facility permit is issued; or
- (2) 180 days.

(F) Category I and category II heli-facility permits are non-renewable. Source: 2003 Code Section 13-1-292(C); 1992 Code Section 17-2-292(C); Ord. 040729-16; Ord. 20110421-005; Ord. 20130620-089.

## ■ § 13-1-185 INSURANCE REQUIRED; TERMINATION.

- (A) The owner or operator of a heli-facility must maintain aircraft liability including premises liability and general liability policy with a combined single limit of liability for bodily injury and property damage of not less than \$5,000,000 for each occurrence.
- (B) A policy under this section shall:
- (1) name the city as an additional insured;
- (2) provide coverage against all claims arising out of the operation of the heli-facility, including bodily injury, personal and advertising injury, death, contractual liability, independent contractors, and property damage;
- (3) be endorsed to provide the city a thirty (30) day notice of cancellation except for non-payment of premium;
- (4) be issued by an insurance company authorized to do business in the State of Texas; and
- (5) contain waiver of subrogation and recovery in favor of the city.
- (C) The owner of a heli-facility shall annually provide the director with a certificate of insurance.
- (D) The director may terminate a heli-facility permit if the owner fails to maintain the required insurance.

Source: 2003 Code Sections 13-1-292(I) and (K); 1992 Code Sections 17-2-292(I) and (K); Ord. 040729-16; Ord. 20130620-089.

# 📙 § 13-1-186 HELI-FACILITY STANDARDS AND MARKING.

- (A) The design, construction, and operation of a heli-facility must comply with applicable city building and fire codes and aviation law including FAA Advisory Circular 150/5390-2 (Heliport Design Guide).
- (B) A heli-facility must be marked as prescribed by FAA Advisory Circular 150/5390-2 (*Heliport Design Guide*).
- (C) A private use heliport shall use an authorized logo, emblem, or other owner identification in the touchdown area that:
- (1) is known to the pilots authorized to use the heli-facility; and
- (2) does not detract from other required markings.

Source: 2003 Code Section 13-1-292(L); 1992 Code Section 17-2-292(L); Ord. 040729-16; Ord. 20130620-089.

## 📙 § 13-1-187 NOISE ASSESSMENT GUIDELINES.

- (A) This section does not apply to a hospital heliport.
- (B) To the extent made applicable by this article, a heli-facility shall comply with the guidelines in FAA Advisory Circular 150/5020-1 (Noise Control and Compatibility Planning for Airports). Source: 2003 Code Section 13-1-292(U)(1); 1992 Code Section 17-2-292(U)(1); Ord. 040729-16; Ord. 20130620-089.

# 📙 § 13-1-188 INSPECTION AUTHORIZED.

(A) The owner or operator of a heli-facility shall permit access to the facility on demand for periodic inspection by city personnel, including fire department personnel.

(B) The chief of the fire department shall conduct a periodic inspection of each heli-facility and submit a copy of an inspection report to the director and the owner for review and, if necessary, appropriate action.

Source: 2003 Code Section 13-1-292(U)(2); 1992 Code Section 17-2-292(U)(2); Ord. 040729-

16; Ord. 20130620-089.

#### **■ § 13-1-189 MAINTENANCE REQUIRED; TERMINATION.**

- (A) The owner or operator of a heli-facility shall maintain the buildings, structures, and ground areas used to store helicopters or related to helicopter use in a safe and sanitary condition for the term of the heli-facility permit.
- (B) The owner or operator of a heli-facility shall maintain required equipment and security devices in good working order for the term of the heli-facility permit.
- (C) The director may terminate a heli-facility permit if the owner or operator fails to properly maintain the heli-facility or any required equipment or security devices.
- (D) The director may terminate a heli-facility permit if the owner or operator fails to comply with applicable provisions of the City Code.
- (E) The director shall terminate a heli-facility permit if the heli-facility poses a material threat to life, health, or property or adjacent development makes continued operation of the heli-facility a material threat to life, health, or property.

Source: Ord. 040729-16; Ord. 20130620-089.

#### ■ § 13-1-190 RESTRICTION ON ALTERATIONS TO FACILITY OR OPERATIONS.

The owner or operator of a heli-facility may not enlarge or modify the design or layout of a heli-facility or make any material change to the operations of a heli-facility without the prior written consent of the director.

Source: Ord. 20121108-051; Ord. 20130620-089.

# **■ § 13-1-191 RESTRICTION ON NUMBER OF CATEGORY II HELI-FACILITIES**WITHIN A CERTAIN DISTANCE AND PERIOD OF TIME.

The director shall not approve applications, including renewal applications, for the operation of more than two category II heli-facilities that are:

- (1) within 1,000 feet of noise sensitive area;
- (2) within 0.5 miles of each other; and
- (3) within a term of 180 days.

Source: Ord. 20121108-051; Ord. 20130620-089.

#### Helicopter Facilities Requirements Table

	Category 1	Category 2	Category 3
	Temporary permit approved for a cumulative total of 10 or fewer helicopter takeoffs and landings per per day and 18 total operations during the period of the heli-facility permit	Temporary permit approved for a single specific event of not more than three (3) consecutive days during the period of the heli-facility permit, with a cumulative total of helicopter takeoffs and landings not to exceed eight (8) operations per hour per day. In addition, no more than three (3) approved helicopters may use an approved category II without special consent of the director.	Permanent helicopter facility
Full Definition	Means a minimally developed heli-facility that is temporarily designated as a landing area for one or more helicopters to be used for the boarding and discharge of passengers or cargo, or for a specific educational, commercial, or community perupose, or for a construction project, and which is not equipped with helicopter maintenance, fueling activities, repair, or storage facility that is approved for a cumulative total of 10 or fewer helicopter takeoffs and landings per day and 18 total operations during the period of the helifacility on a temporary basis.	Means a minimally developed heli-facility that is temporarily designated as a landing area for one or more helicopters to be used for the boarding and discharge of passengers or cargo, or for a specific educational, commercial, or community perupose, or for a construction project, not equipped with helicopter maintenance, refueling activities, repair, or storage facility that is approved to be used for a specific use, during an established timeframe with a cumulative total of helicopter takeoffs and landings not to exceed eight (8) operations per hour per day. In addition, no more than three (3) helicopters are permitted to use an approved Category II without special consent of the Director.	Means a permanent heliport facility.
Operational Hours		7:30 A.M to 8:30 P.M. (local time)	
Permit Term	Valid for the earlier of: (1) the duration of the event or construction project; or (2) 180 days from the date of issuance	Valid for the earlier of: (1) the duration of	Valid for five (5)years from date of issuance
FAA Requirements	Required if >10 operations in 24 hours	Letter of no objection	Letter of airspace determination; letter of no objection; notice of landing area proposal; notice of proposed construction or alteration; model of the noise impact

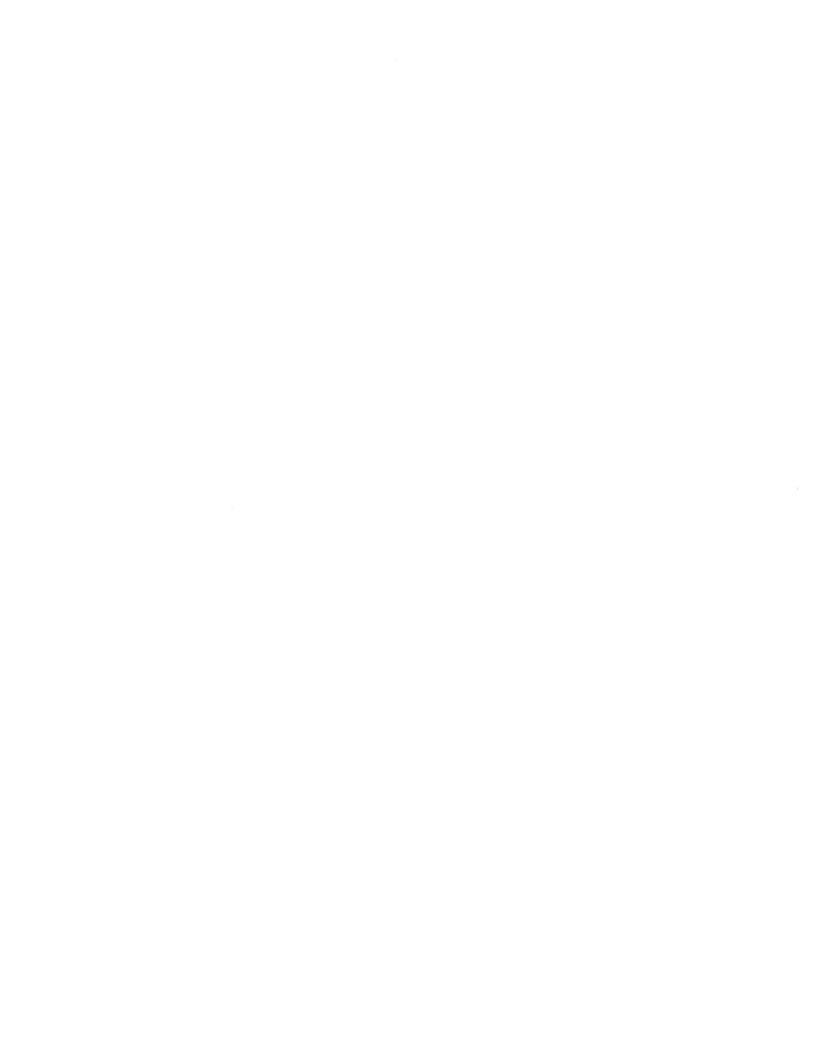
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# Helicopter Air Taxi Analysis 2013 Formula 1



City of Austin – Department of Aviation 3600 Presidential Blvd., Suite 411 Austin, TX 78719 (512) 530-5541

Prepared January 20, 2014



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#### **Executive Summary**

The Circuit of the Americas (COTA) hosted Austin's annual Formula 1 (F1) event the weekend of November 15-17, 2013. The COTA facility is located in a rural section of southeast Travis County near the intersection of FM 812 and SH 130. The Formula 1 event includes for hire helicopter air taxis services. In addition to helicopter air taxis, the event utilizes helicopter operations to support public safety, event security, media and race event television production.

The helicopter air taxi operators utilized several permanent heli-facilities and one temporary heli-facility within the City of Austin's incorporated limits. The permanent heli-facilities were primarily located at existing airports in Austin and the surrounding area.

The City of Austin Department of Aviation (DOA) is responsible for approving temporary heli-facilities within the City of Austin's incorporated limits and extraterritorial jurisdiction. The DOA approved one location near Austin's downtown core at 901 South MoPac.

Helicopter operators were debriefed on noise abatement best practices, including the Fly Friendly Corridor Program to reduce community noise impacts. The Fly Friendly Corridor Program identifies flight paths that reduce residential area over flights, by directing helicopters to follow major highways and waterways.

The report identifies heli-facility locations, helicopter operator statistics, helicopter flight paths, complaint information and compares 2013 helicopter operations to 2012. The DOA also analyzed helicopter and community background noise levels associated with the temporary heli-facility.

#### Aircraft Noise and Flight Track Monitoring System

ABIA owns and operates an aviation industry approved computerized aircraft noise and flight track data collection system. The Aircraft Noise and Operations Monitoring System (ANOMS 8) developed by Brüel & Kjær, fuses data from a wide range of sources to generate an aircraft flight track and its associated noise footprint. The ANOMS system received extensive upgrades and third party verifications in 2012.

ANOMS collects flight track data using the Federal Aviation Administration's (FAA) airport surveillance radar and the aircraft's transponder. Aircraft noise data is collected from strategically located fixed and portable noise monitors. The system also incorporates current weather conditions and noise complaints to generate a comprehensive view of an aircraft operation in the Austin area.

#### **Noise Evaluation Methodology**

Title 13 of City of Austin Code requires temporary heli-facilities to be evaluated for potential noise impacts on surrounding receptors. ABIA used two methods to evaluate noise levels at the approved temporary heli-facility located at 901 South MoPAC, Austin, Texas.

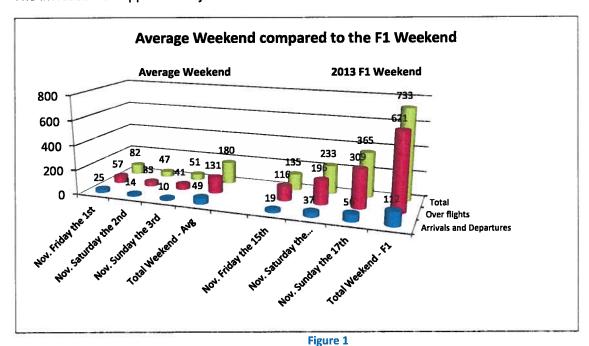
ABIA initially modeled the proposed helicopter noise levels using the FAA's Integrated Noise Model (INM) software. Modeling occurred during the temporary heli-facility application process. Model generated noise contours incorporate helicopter type, number of operations per day, arrival paths, departure paths and weather conditions.

ABIA measured actual noise levels during the 2013 F1 event at three sites around the temporary helifacility using two portable noise monitors strategically placed adjacent to the temporary heli-facility.

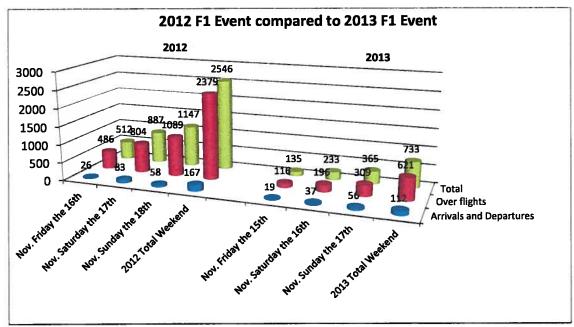
The modeled and measured noise levels generated noise contours using two aviation industry approved noise metrics. The equivalent sound level ( $L_{eq}$ ) noise metric measures noise over a specified period of time and the maximum sound level ( $L_{max}$ ) noise metric measures the noise level for one specific noise event. The outputs generated from these tools are summarized in Table 3, Table 4, Figure 10 and Figure 12.

#### Austin Area Helicopter Operations Summary.

**Figure 1** illustrates the increase in helicopter operations during the F1 event versus an average weekend. The increase was approximately 307%.



**Figure 2** illustrates the decrease in 2013 helicopter operations from the previous year's event. The 2013 F1 event had a helicopter operation reduction of approximately 70%.



## **Heli-facility Operations Summary**

The statistics for the individual heli-facility operations are approximately 90% accurate.

Heli-facility	Friday	Saturday	Sunday	Total per site	Percentage
Executive Airport (EDC)	13	23	60	96	13.15%
Dryden Airport (TX05)	12	21	29	62	8.49%
ABIA FBOs (AUS)	19	39	61	119	16.30%
Barton Oaks Plaza (9TA2)	20	27	33	80	10.96%
Barton Creek Golf Club (58TA)	7	31	53	91	12.47%
Horseshoe Bay (DZB)	6	7	20	33	4.52%
San Marcos Airport (HYI)	4	6	15	25	3.42%
Unknown	51	79	94	224	30.68%
Total per day	132	233	365	730	

Table 1

Heli-facility locations and helicopter flight tracks

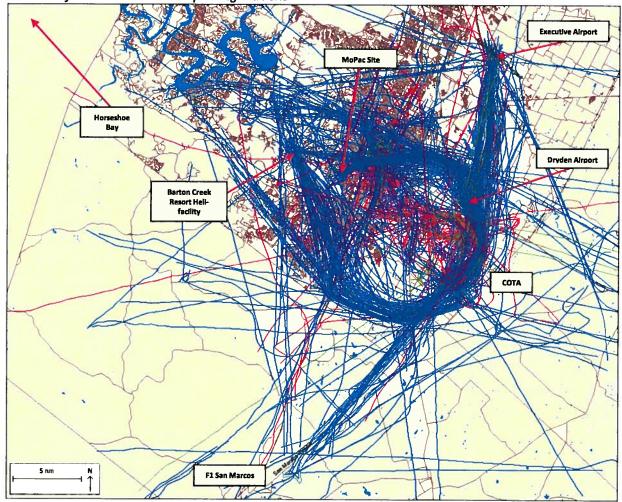


Figure 3

#### **Helicopter Operator Summary**

Helicopter operators were assigned transponder codes prior to the event, which allowed ABIA to approximate the number of operations for each individual operator. **Appendix B** includes figures illustrating the individual operator flight paths.

Helicopter Operator	Total Flight Paths	Percentage
Finns Up Aviation	129	17.6%
McRae	78	10.7%
Eurocopter	29	4.0%
Capital Wings	76	10.4%
Paradigm	48	6.6%
Helimotion	42	5.7%
RJ Machine	44	6.0%
T&M	39	5.3%
Ту-Тех	35	4.8%
RACE17	20	2.7%
Air Center	9	1.2%
All others	182	24.9%
Total	731	

Table 2

#### Fly Friendly Corridor Program

The helicopter operators were encouraged to use best practices for noise abatement, including but not limited to, the use of the Fly Friendly Corridor Program to avoid flight paths over residential areas.

Figure 4 illustrates the 2013 F1 event helicopter flight paths. Warmer colors identify primary flight paths used by the operators which align with recommended noise abatement practices.

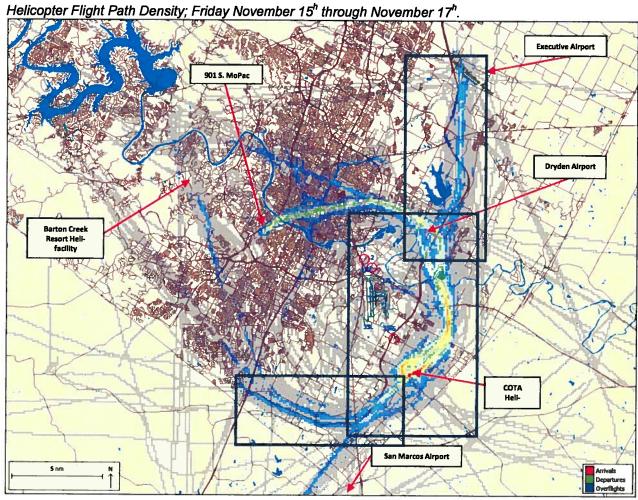


Figure 4

#### Complaints

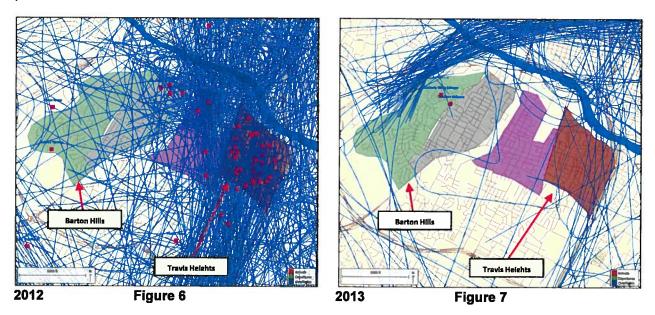
The 2012 F1 event generated 116 complaints and the 2013 F1 event generated 3 complaints. **Figure 5** identifies the 2013 event complaint locations (red squares) as wells as helicopter flight paths.

Helicopter Flight Path Density Map with complaints (Friday November 15<sup>th</sup> through November 17<sup>th</sup>) Dryden Airport Barton Creek Resort Heli-facility COTA Heli-facility

Figure 5

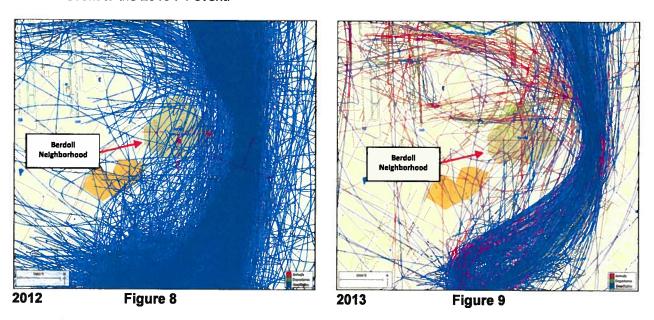
#### South Austin Helicopter Flight Path Comparison

Figures 6 and 7 are snapshots that illustrate the dramatic change in south Austin helicopter operational patterns from the 2012 F1 event to the 2013 F1 event.



## **COTA Helicopter Flight Path Comparison**

Figures 8 and 9 are snapshots that illustrate the change in COTA helicopter operational patterns from the 2012 F1 event to the 2013 F1 event.



#### Temporary Heli-facility Noise Summary (MoPAC site)

#### L<sub>eq</sub> Noise Contours

**Figure 10** illustrates the modeled  $L_{eq}$  noise contours for the temporary heli-facility site. The contours were generated using applicant provided helicopter types, the number of operations per day, and the proposed arrival and departure paths.



Figure 10

The DOA selected three sites adjacent to the temporary heli-facility for portable noise monitor placement. (**Figure 11**) The noise monitors separate aircraft noise from community background noise (vehicle traffic, etc.) Table 3 summarizes modeled  $L_{eg}$  aircraft noise levels, measured  $L_{eg}$  aircraft noise levels and measured  $L_{eg}$  community background noise levels.

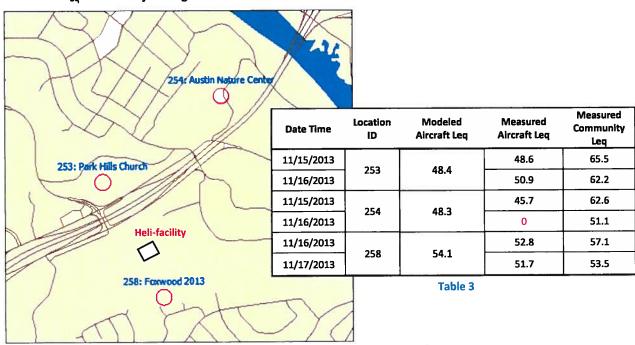


Figure 11

#### L<sub>max</sub> Noise Contours

**Figure 12** illustrates the modeled  $L_{\text{max}}$  noise contours for the temporary heli-facility site based on applicant provided helicoptor type, and assuming helicopter arrivals are from the north and departures are to the south.

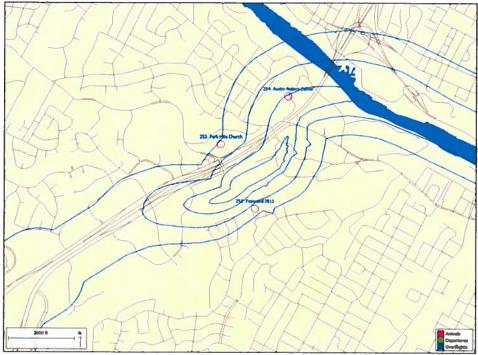


Figure 12

**Table 4** summarizes modeled  $L_{\text{max}}$  aircraft noise levels, measured  $L_{\text{max}}$  aircraft noise levels and measured  $L_{\text{max}}$  community background noise levels.

	Modeled Aircraft Noise - Anticipated Lmax	Measured Aircraft Noise - Lmax	Measured Community Noise - Lmax
253: Park Hills Church	65.8	79.9	101.4
254: Austin Nature Center	75.4	74.4	98.9
258: Foxwood	67.7	78.7	81.3

Table 4

#### Noise comparison chart

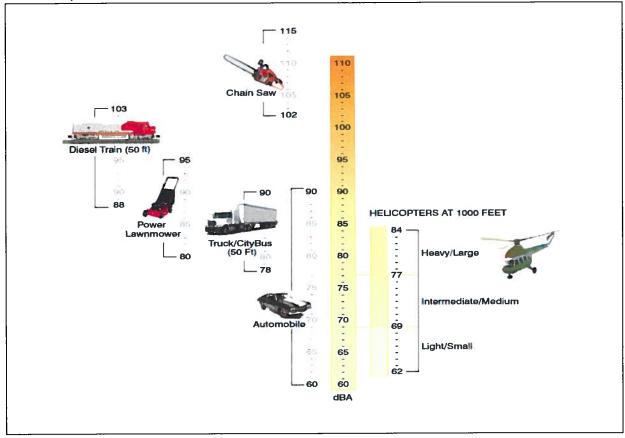


Figure 13

#### Conclusion

The 2013 Formula 1 event had significant reductions in total helicopter operations, noise complaints and flight paths over residential areas, as compared to the inaugural event in 2012. Noise complaints alone were reduced by 97% in 2013.

Helicopter noise modeling is required for a Category II temporary heli-facility permitting per City Code. ABIA used two noise metrics to predict noise levels adjacent to the temporary facility, one method measures noise levels over a specified period of time  $L_{eq}$  and the other measures the maximum noise level per noise event  $L_{max}$ . The Leq noise metric is required by City Code during the application process.

The modeled and measured helicopter noise levels using the  $L_{\text{eq}}$  metric were very similar (Table 3). The modeled and measured helicopter noise levels using the  $L_{\text{max}}$  metric had significant variations at two of the noise monitoring sites (Table 4). The difference is believed to be attributed to the temporary helifacility operator using a second helicopter of which the make and model was unknown when the application was processed. Fins Up Aviation operated the temporary helifacility in 2013.

The City of Austin, community stakeholders, helicopter operators and ABIA expended extensive resources in early 2013 to improve F1 event helicopter operations. This working group updated Title 13 of the City of Code which was approved by the City of Austin Council. The benefits of their efforts were clearly represented at the 2013 F1 event as detailed in this report.

ABIA staff is available to provide additional information on this report upon request. Please contact Mr. Stephen Dick at (512) 530-5541

#### **Appendix A - Glossary of Terms**

ANOMS: Aircraft Noise and Operations Monitoring System

ATC: Air Traffic Control

Class C Airspace is the airspace from the surface to 4,000 feet above the airport

elevation. Class C airspace will only be found at airports that have an operational control tower, are serviced by a radar approach control, and that have a certain number of IFR operations. Although Class C airspace is individually tailored to meet the needs of the airport, the airspace usually consists of a surface area with a 5 nautical mile (NM) radius, an outer circle with a 10 NM radius that extends from 1,200 feet to 4,000 feet above the airport elevation and an outer area. Pilots must establish and maintain two-way radio communications with the ATC facility

providing air traffic control services prior to entering airspace.

Decibel (dB): Sound is measured by its pressure or energy in terms of decibels. The decibel

scale is logarithmic; when the decibel level increases by 6 dB, the measured

sound is twice as loud.

DNL: Day Night Levels; a logarithmic average of sound levels in A-weighted decibels

based on a 24-hour equivalent Sound Level (Leq) weighted to account for increased noise sensitivity between night time hours of 10:00 p.m. and 7:00 a.m.

FAA: Federal Aviation Administration

FBO: Fixed Base Operators

FlightTrak: One component of the ANOMS system installed at the airport to passively "listen"

to the FAA's Airport Surveillance Radar and to the aircraft transponder.

GA: General Aviation

Leq: Equivalent Sound Level; a measure of the exposure resulting from the "energy

averaged" A-weighted sound levels over a specific period of time. Its value represents one constant sound level for the specific time period that contains as much sound energy as the actual varying sound levels that existed during the

time period.

L<sub>max</sub> Maximum Sound Level; is the maximum sound level for one noise event.

Mode S transponder Part 91 general aviation aircraft are not required to have mode S or TCAS

systems. Part 121 operators operation within the USA with more than 30 seats

must be equipped with TCAS II. Mode S is required with TCAS II system

NMT: Noise Monitoring Terminal (microphone)

Noise: Generally considered to be any sound, which is deemed undesirable by an

individual.

Noise Abatement: A measure or action that minimizes the amount or impact of noise on the

environs of an airport. Noise abatement measures include aircraft operating procedures and use or disuse of certain runways or flight tracks. These operating

procedures are controlled by the FAA.

Noise event: When noise at a microphone exceeds a floating threshold for a specific length of

time.

SEL: Sound Exposure Level (noise metric); a measure of the physical energy of the

noise event which takes into account both intensity and duration. People do not hear SEL. SEL takes all of the energy under the line in a noise versus time chart and compresses it to a 1-second value. SEL is typically used to compare noise events of varying durations and intensities. It is also the underlying data for

aircraft noise curves in the INM.

Sound: A rapid variation in air pressure, which is perceived by the ear and brain as

sound.

### Appendix B - Flight Paths by Operator

Fins Up Aviation – 129 paths

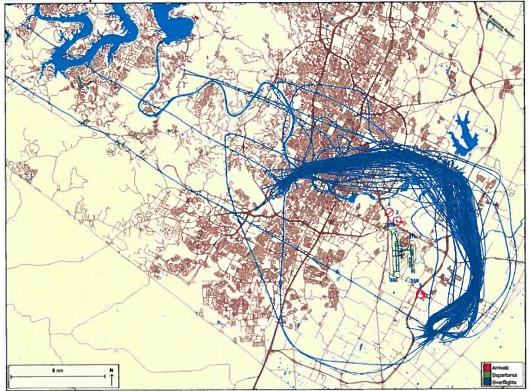


Figure 6

McRae – 78 paths

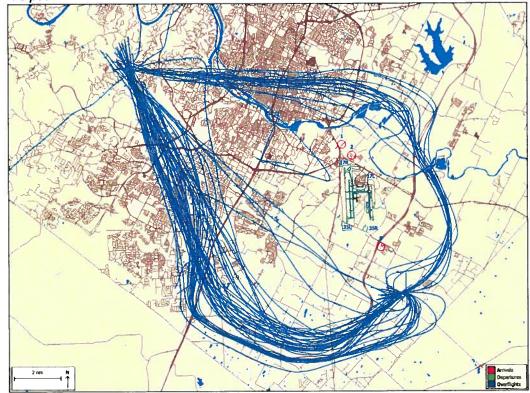


Figure 7

#### Capital Wings - 76 paths

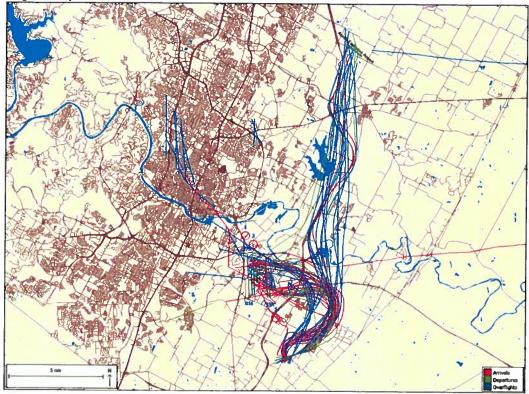


Figure 8

### Paradigm – 48 paths

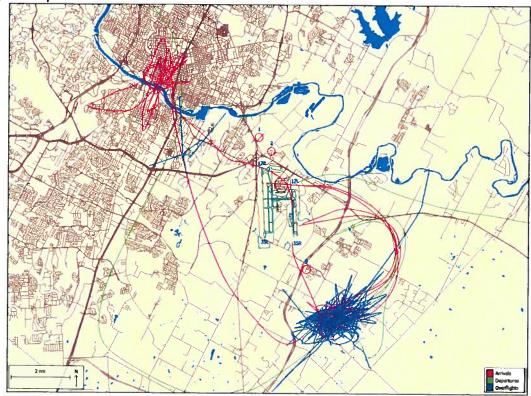


Figure 9

### RJ Machine - 44 paths

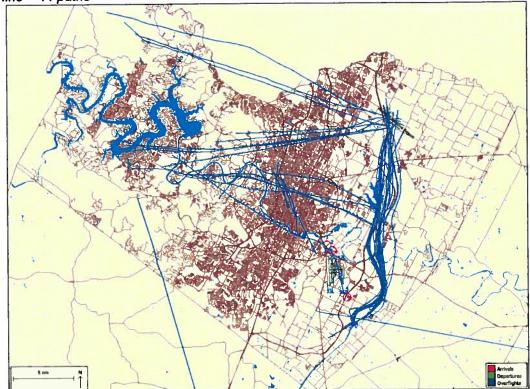
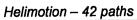


Figure 10



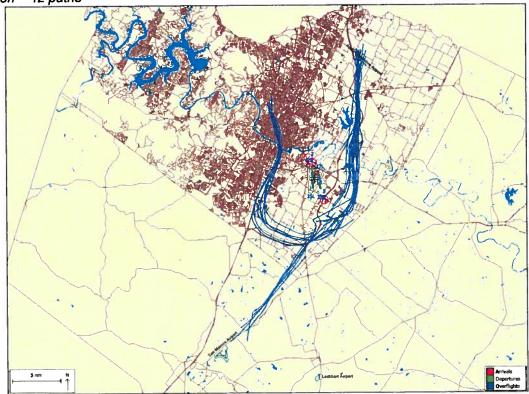


Figure 11

T & M - 39 paths

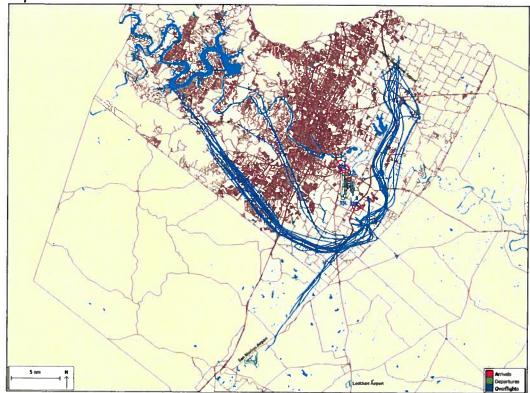


Figure 12

Ty-Tex – 35 paths

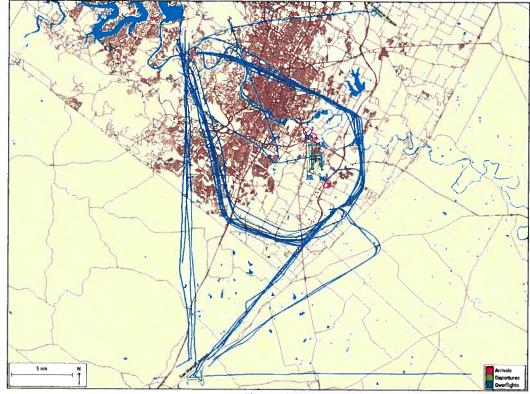


Figure 13

Eurocopter – 29 paths

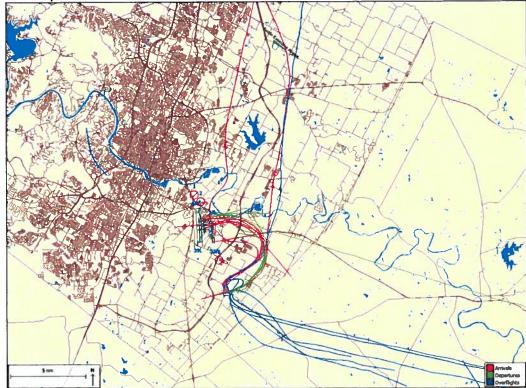
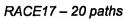


Figure 14



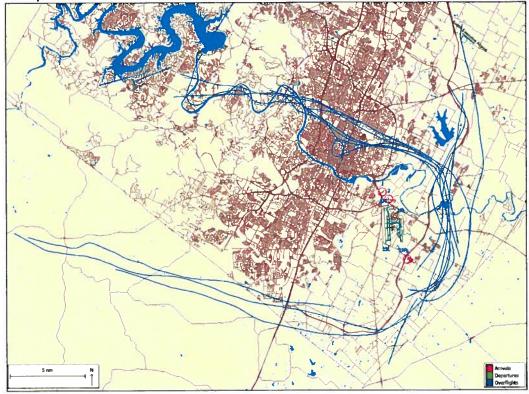


Figure 15

Air Center - 9 paths

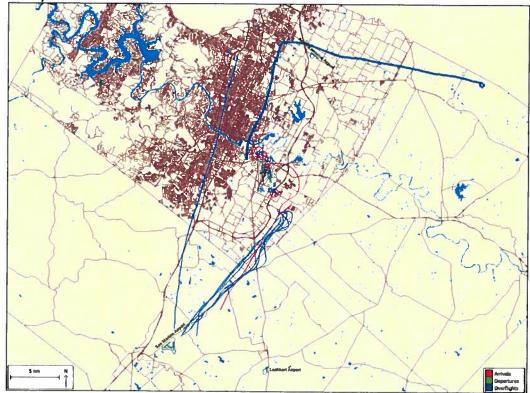


Figure 16

APD, DPS, Travis County and other paths not identified as air taxis - 182 paths

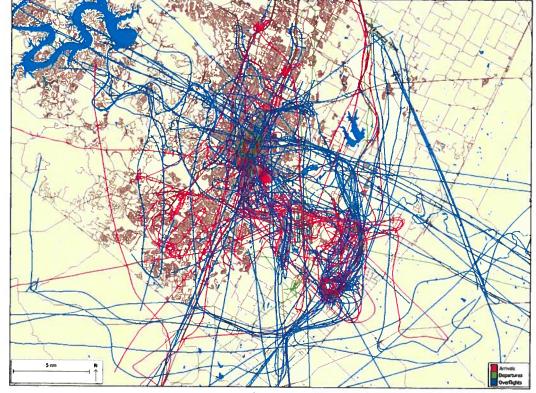


Figure 17

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## Helicopter Stakeholder Meeting Participants

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